Abstract

Corrosion and gas hydrate inhibitors having improved water solubility and increased biodegradability

The invention provides the use of compounds of the formula (1)

$$\begin{array}{c|c}
R^{1} & O & O \\
\downarrow & \downarrow \\
R^{2} & A - O \xrightarrow{}_{n} B - X & D & Y - R^{4}
\end{array}$$
(1)

where

 R^1 , R^2 are each independently C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl,

R³ is C₁- to C₂₂-alkyl, C₂- to C₂₂-alkenyl, C₆- to C₃₀-aryl or C₇- to C₃₀-alkylaryl, -CHR⁵–COO or -O,

R⁴ is M, hydrogen or an organic radical which optionally contains heteroatoms and has from 1 to 100 carbon atoms,

A is a C_2 - to C_4 -alkylene group,

B is a C_1 - to C_{10} -alkylene group,

D is an organic radical which optionally contains heteroatoms and has from 1 to 600 carbon atoms,

X, Y are each independently O or NR⁶,

 R^5 , R^6 are each independently hydrogen, C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl, and

M is a cation

n is a number from 1 to 30

as corrosion inhibitors and gas hydrate inhibitors, and also the compounds of formula 1.